

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016390**Date Inspected:** 21-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Shi Lei

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Segment Trial Assembly

This QA Inspector observed ZPMC welder Mr. Chen Rui stencil 041713 used shielded metal arc welding procedure specification WPS-345-SMAW-3G(3F)-FCM-Repair-1 to complete repair welds of side plate SP657-001-032 which had been ultrasonically rejected. ZPMC has issued weld report WR14646 to document these weld repairs. These welds are located in OBG segment 9CW between panel points PP79 and PP80. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xue Yuan stencil 202316 used shielded metal arc welding process to complete repairs of visual and magnetic particle rejections of side plate hold back weld SP672-001-025. Mr. Xue Yuan appeared to be certified to make these welds. This QA Inspector measured a welding current of approximately 150 amps and the base material adjacent to this weld was preheated with a torch. This weld was located on the cross beam side edge plate on OBG segment 9CW. Items observed on this date appeared to generally comply with applicable contract documents.

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This QA Inspector observed ZPMC welder Mr. Xu Nai Jun stencil 044551 used shielded metal arc welding procedure specification WPS-B-P-2214-B-U2-FCM-1 to complete weld OBW10B-001. This weld was located on the counterweight side edge plate between OBG segments 10AW and 10BW. This QA Inspector observed a welding current of approximately 160 amps, Mr. Xu Nai Jun appeared to be certified to make this weld and the base materials appeared to have been preheated with electric heaters. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wu Jun stencil 053486 used flux cored welding procedure WPS-B-T-2231-TC-U4b-F to make weld OBW9K-013. This weld joins OBG segment 9EW counterweight mounting plate to the edge plate. This QA Inspector observed ZPMC QC adjusting the welding machine to have a welding current of approximately 300 amps and 30.0 volts. Mr. Wu Jun appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chang Chuan Gang, stencil 053870 used flux cored welding procedure WPS-B-T-223(2)T-2 to make the root pass of weld OBE10-003. This butt weld joins the top deck plates between OBG segments 10AE and 10BE. This QA Inspector measured a welding current of approximately 230 amps, 28.0 volts and Mr. Chang Chuan Gang appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Sui Jianting, stencil 2022110 used flux cored welding procedure WPS-B-T-223(2)T-2 to make the root pass of weld OBE10-003. This butt weld joins the top deck plates between OBG segments 10AE and 10BE. This QA Inspector measured a welding current of approximately 240 amps, 29.0 volts and Mr. Sui Jianting appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Hengjun, stencil 044473 used flux cored welding procedure WPS-B-T-223(2)T-2 to make the root pass of weld OBE10-003. This butt weld joins the top deck plates between OBG segments 10AE and 10BE. This QA Inspector measured a welding current of approximately 225 amps, 27.5 volts and Mr. Wang Hengjun appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Hongchang, stencil 052763 used flux cored welding procedure WPS-B-T-223(2)T-2 to make the root pass of weld OBE10-003. This butt weld joins the top deck plates between OBG segments 10AE and 10BE. This QA Inspector measured a welding current of approximately 230 amps, 28.0 volts and Mr. Hongchang appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yu Zhongye, stencil 040367 used flux cored welding procedure WPS-B-T-2231T to make the root pass of weld OBE10B-003. This butt weld joins the bottom plates between

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OBG segments 10AE and 10BE. This QA Inspector measured a welding current of approximately 265 amps, 28.0 volts and Mr. Yu Zhongye appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Lin Bo, stencil 047353 used flux cored welding procedure WPS-B-T-2231T to make the root pass of weld OBE10B-003. This butt weld joins the bottom plates between OBG segments 10AE and 10BE. This QA Inspector measured a welding current of approximately 270 amps, 29.0 volts and Mr. Lin Bo appeared to be certified to make this weld and the base material had been preheated with electric heating elements. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhang Feng, stencil 049769 used shielded metal arc welding process to perform a repair of bottom plate hold back weld BP075-001-038. This hold back weld appears to have had a magnetic particle (MT) rejection and part of the weld had been ground out to remove the MT indication. This QA Inspector did not observe any acetylene torch, electric heaters or other equipment near where this weld had been made and the base material adjacent to the weld repair did not appear to have been preheated prior to welding. This QA Inspector informed ZPMC CWI Mr. Shi Lei that Mr. Zhang Feng appears to have made this weld without any preheating of the base material. Mr. Shi Lei informed this QA Inspector that the weld material would be ground out and the ground area will be MT inspected prior to welding. Mr. Shi Lei marked on the steel that an MT inspection will be required prior to welding and he said there are no ZPMC MT inspectors available at this time to perform the inspections and the MT inspection of the weld removal area will be performed tomorrow. This weld was located on the bottom plate of OBG segment 10AE adjacent to OBG segment 10BE. Items observed on this date do not appear fully comply with applicable contract documents. See the photographs below for additional information.



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

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Inspected By:	Dawson,Paul	Quality Assurance Inspector
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Reviewed By:	Carreon,Albert	QA Reviewer
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